North American Drought Monitor – January 2006

Canada: Southwestern British Columbia received well above average precipitation during the month of January. Other regions of the province generally received near or below average amounts. Vancouver Island and the south coast experienced record snow accumulation in January. Six stations in that area recorded above 180% of average monthly precipitation. The snowpack in southern and central BC increased dramatically to near or above average at the end of the month. Northern BC received below average precipitation causing the snowpack to remain below average. The average snow water equivalence for the province rose from 57% of average in late December to 93% of average on February 1st.

Most areas of Alberta received well below average January precipitation. Near or above average precipitation was received in the southern foothills, southeast area of the province near Medicine Hat, and in the western Peace Region. Accumulated precipitation from November 5 to January 31 was below 50% of average for most of the province. At the end of January there remained large areas with no snow cover in central parts of the province extending south from Edmonton to the US border. The mountain snowpack remained above average. Based on the snowpack and assuming average precipitation through September the natural runoff volumes were forecast to be near average from March to September in the Milk, Red Deer and North Saskatchewan River basins, and below average to average in the Oldman and Bow River basins. Parts of northern and central Alberta, in particular the Peace River Region were in moderate drought (D1) and abnormally dry (D0) conditions. While there was little or no snowcover in the southern plains region soil moisture levels were above average.

A few stations in southeastern Saskatchewan and southwestern Manitoba recorded well below average January precipitation. The remainder of those provinces generally receiving near or above average precipitation amounts. Both provinces generally received near or above average precipitation from November 1 –to January 31, with below average amounts along the Alberta-Saskatchewan border.

Northern Ontario received near or above average precipitation during January. All but one streamflow station in Northern Ontario recorded above 70% of average streamflow using the criteria defined by the Ontario Ministry of Natural Resources. Southern Ontario generally received above average amounts, eliminating the abnormally dry conditions that existed at the end of December. All streamflow stations in southern Ontario recorded above 100% of average streamflow using the criteria defined by the Ontario Ministry of Natural Resources. Provincially, only a few isolated stations recorded below 100% of average accumulations from November 1 to January 31. Preliminary data indicated that the Great Lakes basin received 120% of average January precipitation.

Quebec received above or well above average January precipitation. Several stations in the south recorded above 200% of average. Accumulated precipitation from November 1st to January 31st was generally above average.

New Brunswick and Newfoundland received near average monthly precipitation, while Prince Edward Island and Nova Scotia were below average. All Atlantic provinces had received near average precipitation during the period November 1 to January 31.

United States: The precipitation pattern over the United States during January consisted of both wet and dry extremes. The month was drier than normal across much of the Gulf Coast and into the coastal Southeast, and much drier than normal from the Southwest to southern Great Plains and in Alaska. Above-normal precipitation continued to erode the drought areas in the Pacific Northwest. The month was wetter than normal across the drought areas from northeast Texas to northern Illinois, but it was not enough to compensate for the significant deficits of the last 10 months. Across Hawaii, the precipitation pattern was drier than average at stations in Maui but mixed elsewhere. In Puerto Rico, the precipitation signal was also mixed. January temperatures nationwide were much above normal, giving the U.S. the warmest January in the 112-year record and increasing evapotranspiration during the low point in the annual evapotranspiration cycle.

The January dryness aggravated long-term drought in the Southwest (parts of which have been dry for the last 3 to 7 months) and southern Plains (very dry since March 2005). Long-term moisture deficits persisted across parts of the southern Plains to mid-Mississippi Valley (last 9 to 12 months) and west into the northern High Plains and central Plains (last 48 to 60 months). Arizona had record dry conditions statewide for the period September 2005-January 2006. Arkansas had the driest October 2005-January 2006 in the 112-year record this year. Stations in Texas and Arizona set records for the longest number of consecutive days without measurable precipitation. Key West, Florida reported the longest run of days with less than a tenth of an inch (2.54 mm) of rain.

The drought has caused serious impacts in the southern Plains and Southwest. In Texas and New Mexico, drought ravaged the winter wheat crop, which is a major source of food for cattle, forcing many ranchers to sell calves prematurely. In January, Governor Perry declared a drought disaster in all 254 Texas counties. According to Texas Cooperative Extension reports, more than 90 percent of the state's range and pastures were in extreme, stressed condition, and more than 90 percent of the wheat statewide was poor to very poor. By late January Texas drought losses reached an estimated $1.5 billion. Numerous wildfires throughout January burned across several states in the central and southern Plains. Since the beginning of the year, over 3700 fires have charred more than 330,000 acres (132,000 hectares).

In the higher elevations, most sites in central and southern New Mexico and Arizona have recorded only 15% to 45% of normal precipitation since October 1, 2005, and snowpack water content stood at only 5% to 25% of normal at most locations as January ended. With extremely low snowpacks and subnormal streamflow in these states, D1 expanded and areas of D2 and D3 were added, with D1 spilling into southern Colorado. All drought categories expanded across Texas compared to last month. The D2 and D3 areas grew in Oklahoma, D0 expanded in Kansas, and D1 expanded in Nebraska. D0 and

D1 crept eastward along the Gulf Coast and, with end-of-January snowpack 50-70% of normal, D0 expanded in Alaska.

Abundant rainfall and a deepening snowpack, more than 150% of normal in much of Oregon and parts of Washington and Idaho, prompted the pullback of D0 and D1 to the eastern fringe of the Pacific Northwest and parts of the northern Rockies this month. Above-normal precipitation resulted in the shrinkage of D0 and D1 in Wisconsin and the Tennessee Basin and the elimination of D2 in Kentucky. While the wet January conditions in northern Illinois were not enough to compensate for the significant deficits of the last 10 months, D3 was contracted to reflect slight improvement.

Mexico: Nationwide, January was the third consecutive month with precipitation below normal. The National Meteorological Service (SMN) ranked January 2006 as the 17th driest since 1941. Sixty-four percent of the country received below average precipitation. Averaged across the country, precipitation was 29 percent of normal. Dryness increased across northern and central Mexico.

The National Water Commission (CNA) reported that at national and regional levels the availability of water for irrigation and municipal use is slightly below normal. However, a number of reservoirs were below 50 percent of capacity; including: 6 in the northwestern Mexico; 2 in northeast Mexico; 21 in central Mexico; and, three located in Michoacán in southern México. Most of these reservoirs are used for irrigation. Considering that March through April is the driest and hottest period across most of Mexico, there is considerable concern about agricultural and societal impacts of drought.

Abnormally dry (D0) to extreme drought (D3) conditions expanded in the northern part of the country, including the Baja California Península. Moderate drought (D1) expanded to cover most of Sonora, Chihuahua and Sinaloa. Severe drought (D2) and extreme drought (D3) categories were added in northern Sonora. In northeastern Mexico, D1, D2 and D3 conditions were introduced from Piedras Negras in Coahuila to Matamoros in Tamaulipas just south of the Mexico-US border. South of this area, a stationary front in central-northern Mexico produced significant amounts of rain during January 23 -26. As a result these regions remain under abnormally dry (D0). The area of moderate drought (D1) in central-western Mexico expanded eastward near Mexico City and southward near Acapulco. Southeastern Mexico, including the Yucatan peninsula was the only region of the country to receive near normal precipitation so far this winter; therefore, only Campeche remains abnormally dry.